

### **REMARKS/ARGUMENTS**

Claims 1-13 are pending. Claim 10 was objected to as lacking antecedent basis for “the recognition algorithm”. Claims 11-13 were objected to as being in improper form.

Claims 1, 2, 4, 6, and 7 were rejected as anticipated by U.S. Patent No. 5,842,139 to Muramatsu et al. Claim 3 was rejected as unpatentable over Muramatsu in view of U.S. Patent No. 6,108,543 to Takahashi et al. Claim 5 was rejected as unpatentable over Muramatsu. Claim 8 was rejected as unpatentable over Muramatsu in view of JP 08-298698 to Sakamoto. Claims 9 and 10 were rejected as unpatentable over Muramatsu in view of Well-Known Prior Art (Official Notice).

Applicant submits that Claim 10 does have antecedent basis for “the recognition algorithm” because Claim 10 depends on any of claims 1 to 6, and Claim 6 recites a sound recognition algorithm. Accordingly, the objection to Claim 10 should be withdrawn.

Claims 11-13 have been amended to place them in proper form.

#### **Rejections Based on Prior Art**

Claim 1 has been amended to insert “*in the standby mode*” after “characterised in that”. It was already implicit in claim 1 that the audio generator of the radio communication terminal is energized only during the radio channel in the standby mode. The fact that this is true is evident at the top of page 3, lines 3-5, which describes standard operation of a GSM mobile terminal in the standby mode and states “The speaker module 5 and microphone module 6 are not powered up in the standby mode in order to save power until such time as they may be required.” Page 3, lines 12-13, then states “It is a feature of the invention that this reserved audio processing time is used by powering up the microphone module 6 during this time”, where “this time” is the time between the bursts of the paging channel in the standby mode.

The above clarification is important in emphasizing the critical distinction of the claimed invention over the references, in particular Muramatsu. Because according to the claimed invention, the power controller energizes the audio generator only during the radio channel (which is the paging channel in the illustrated embodiment) and not outside of the radio channel, additional power consumption by the audio generator is limited in time to that within the radio channel. During the radio channel, the processor DSP (which incorporates the modem 2, channel coder 3 and speech coder 4) is normally powered up for paging or control purposes only. The claimed invention makes use of the potential of the processor for audio recognition during this time by powering up the audio generator 5. The claimed invention therefore provides important new functionality including hands-free operation, without significantly increasing power consumption. Power consumption is a critical issue with the design of radio communication terminals when these are dependent on battery power for their operation and battery life needs to be maximized.

Muramatsu discloses a telephone communication terminal having a voice recognition capability that can be used to trigger the terminal to make a call to a predetermined number automatically. The sound to which the terminal will respond is any of "a cry of an infant existing near the terminal, a voice generated by a sick person, and a loud sound". The voice recognition capability is switched on and off by a manual/ automatic key 31, and once the key 31 is switched to the automatic state, the terminal is placed in a state for voice recognition. Column 3, lines 38-40, states "After power is turned on, switch over from the manual calling mode to the automatic calling mode is affected by using the manual/automatic key 31 shown in Figure 3". This makes it clear that power is connected to the terminal in both manual and automatic modes. The reference discloses nothing further about power control or standby operation. It seems a reasonable assumption therefore that the power supply to the microphone 307 is connected continually during the automatic mode.

In view of this important difference between Muramatsu and the claimed invention, Applicant submits that Muramatsu does not disclose the claimed invention or render it obvious.

As regards the Takahashi reference, this has been cited because it discloses a mobile telephone system in which control channels are used as standby for call origination or call reception. However, it does not disclose the use of this functionality for the purposes of initiating a call with an audio command. The combination of Muramatsu and Takahashi therefore does not have all of the features of claim 1 of the application. In particular, the combination does not disclose the power control/ saving feature of energizing the audio generator only during the radio channel in the standby mode.

For at least the above reasons, Applicant respectfully submits that Claim 1, and therefore all of Claims 1-13, are patentable over the cited references.

Furthermore, with respect to Claim 2 in which the processor processes digital signals from the radio module during one or more successive data bursts of the radio channel, this feature is not disclosed by Muramatsu.

Furthermore, with regard to Claim 3, Muramatsu does not disclose use of a paging channel.

Regarding Claim 4, Muramatsu does not disclose the use of a narrow-band sound to trigger the terminal. Muramatsu only refers to the cry of an infant, the voice of a sick person and a loud sound. The use of a narrow-band sound is important because the audio recognition function according to the claimed invention is only available for a limited period of time in standby mode, and recognition must therefore occur rapidly. This is not readily achievable using words, which have a more complex frequency spectrum, as illustrated in Figure 3 of the application. The Applicant has appreciated that a substantially narrow-band sound can be detected rapidly during the limited time that may be available for an audio recognition function to be effective in the standby mode.

Claim 5 further specifies that the narrow-band sound is a whistle, and the same comments apply as in relation to claim 4.

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Claim 6 specifies the use of a sound recognition algorithm which distinguishes the audio input from speech, and Muramatsu only refers to speech. A cry of an infant is simply a form of speech, and Muramatsu's reference to a loud sound does not identify the nature of the sound at all as to whether this is speech or something else.

Claims 7 and 8 are dependent on claim 6 and therefore include the same requirement to be responsive to non-speech input.

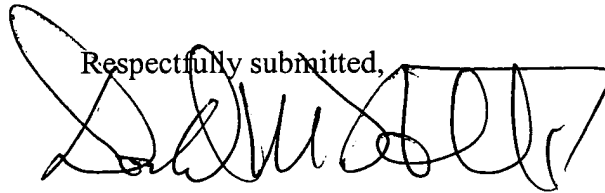
These dependent claims thus are patentable for the reasons given above in connection with Claim 1 from which they depend, as well as the additional reasons noted above.

#### Conclusion

Based on the above amendments and remarks, it is submitted that the application is in condition for allowance.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefor (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Donald M. Hill, Jr.', written over the text 'Respectfully submitted,'.

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